reinforcement learning: planning and control through experience

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Abstract

Significant recent advances in Machine Learning have resulted in an explosion of interest in the field and its possible applications. Reinforcement Learning is a sub-field of ML which attempts to address the control question, including in the control of difficult-to-model, dynamic systems. Reinforcement Learning has undergone particular growth, with several recent high-profile successes. In this paper, I introduce the field of Reinforcement Learning, and describe its strengths and weaknesses to help the reader understand if the approach is appropriate for their control problem.

Keywords

Reinforcement Learning, Control Theory, Machine Learning, Artificial Intelligence.

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Title 14 pt

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Figure caption *italic,* mixed case

Table caption *italic,* mixed case

Main heading **bold***,* mixed case

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Elsewhere normal

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Titles should only be assigned to sections and subsections. Section titles should be capitalized (i.e., nouns, verbs, and all other words except articles, prepositions, and conjunctions should be set with an initial capital), boldface and, with the exception of the paper title, left aligned. Use *Main Heading* style for section titles.

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Table 1. Font sizes and styles

|  |  |
| --- | --- |
| Heading level | Example |
| Title (centered) | **Authors’ Instru…** |
| Main heading | **Introduction** |
| Subheading | *Subsection titles* |
| Main Body | Text follows … |

Keep figures and tables within a singe column, if possible. For larger objects Word requires that you create and format a new page-wide section that is identical in format to the first page-wide section (the one containing the title, author information, abstract, and keywords). Use *Normal* style for tables and *Figure* style for figures.

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Figure 1. This is the figure caption

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 (1)

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Acknowledgments

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Brooke, A., Kendrick, D., Meeraus, A. A. (1992). GAMS- A User's Guide (Release 2.25). *The Scientific Press*. San Francisco, CA.

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